

CURRICULUM VITAE

Timothy L. Crawford

TITLE AND AFFILIATION

Director
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EDUCATION

Ph. D. Mechanical Engineering Geophysical Fluid Dynamics, Univ. Waterloo, 1977.
M. S. Civil Engineering Air Resources, University of Illinois, 1972.
B. S. Mechanical Engineering Thermal Sciences, University of Illinois, 1971.

PROFESSIONAL EXPERIENCE

Environmental Engineer, Air Quality Branch, Tennessee Valley Authority. 1972-1976
Research Analyst, Air Quality Branch, Tennessee Valley Authority. 1976-1979
Supervisor, Atmospheric Physics Unit, Tennessee Valley Authority. 1979-1986
Physical Scientist, NOAA/ARL/FRD, Idaho Falls, ID. 1986-1988
Physical Scientist, NOAA/ARL/ATDD, Oak Ridge TN. 1988-1992
Chief, Air-Surface Exchange Branch, NOAA/ARL/ATDD, Oak Ridge, TN. 1992-1998
Director, Field Research Division, NOAA/ARL/FRD, Idaho Fall, ID. 1998-Present

PROFESSIONAL ACTIVITIES AND MEMBERSHIPS

American Meteorological Society
Electric Power Research Institute Advisor
Mountain Cloud Chemistry Site Director
American Geophysical Union

Experimental Aircraft Association
Aircraft Owners and Pilots Association
PI -- BOREAS, USWRP, CBLAST, etc.

PUBLICATIONS

Journal Articles - 27
Peer-Reviewed Reports - 40
Reports - 48

Selected Publications

- Dobosy, R. J., T.L. Crawford, J. I. MacPherson, R. L. Desjardins, R. D. Kelly, S.P. Oncley, and D. H. Lenschow, 1997: Intercomparison among the four flux aircraft at BOREAS in 1994. *J. Geophys. Res.*, **102**, 29101-29111.
- Crawford, T. L., R. J. Dobosy, and E. Dumas, 1995: Aircraft wind measurement considering lift-induced upwash. *Bound.-Layer Meteor.*, **80**, 79-94.
- Crawford, T. L., R. J. Dobosy, R. T. McMillen, C. A. Vogel, and B. B. Hicks, 1996: Air-surface exchange measurement in heterogeneous regions: Extending tower observations with spatial structure observed from small aircraft. *Global Change Biology*, **2**, 275-285.
- Oechel W. C., S. B. Brooks, T. L. Crawford, E. J. Dumas et al. 1996. CO₂ flux from arctic tundra measured at three scales by chamber, eddy correlation tower, and aircraft techniques: extrapolation to a watershed scale. *Annals of Geophysics Volume XX*.
- Brooks, S. B., T. L. Crawford, and W. C. Oechel, 1997: Carbon dioxide emissions plumes from Prudhoe Bay, Alaska, oil fields. *J. Atmos. Chem.*, **27**, 2:197-207.
- Crawford, T. L., and R. J. Dobosy, 1997: Pieces to a puzzle: Air-surface exchange and climate. *GPS World*, **8(11)**, 32 - 39.
- Sun, J., D. H. Lenschow, L. Mahrt, T. L. Crawford, K, J. Davis, S. P. Oncley, J. I. MacPherson, Q. Wang, R. J. Dobosy, and R. L. Desjardins, 1997: Lake-induced atmospheric circulations during BOREAS. *J. Geophys. Res.*, **102**, 29, 29155-29166.
- Oechel W. C., G. L. Vourlitis, S. B. Brooks, T. L. Crawford and E. J. Dumas 1998: Intercomparison between chamber, tower, and aircraft net CO₂ exchange and energy fluxes measured during the Arctic system sciences land-atmosphere-ice interaction (ARCSS-LAII) flux study. *J. Geophys. Res.*, **103**, 28993-29003.
- Hacker, J. M. and T. L. Crawford, 1999 The BAT-probe: The ultimate tool to measure turbulence from any kind of aircraft (or sailplane). *J. Tech. Soaring*, **XXIII:2**, 43-46.
- Vogel, C. A., and T. L. Crawford, 1999: Exchange measurements above the air-sea interface using an aircraft. *Air-Sea Exchange: Physics, Chemistry and Dynamics*, G. L. Geernaert, Ed., Kluwer Academic Publishers, 231-245.
- Vandemark, D., P. D. Mourad, T. L. Crawford, C. A. Vogel, J. Sun, S. A. Bailey and B. Chapron, 2000: Measured changes in ocean surface roughness due to atmospheric boundary layer rolls. *J. Geophys. Res.*, submitted.
- Sun, J., D. Vandemark, L. Mahrt, D. Vickers, T. L. Crawford, and C. Vogel, 2000: Momentum transfer over the coastal zone. *J of Geophys. Res.*, submitted.